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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/623,268

08/30/2000

Frank Filser

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07/21/2006

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EXAMINER

HOFFMANN, JOHN M

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/623,268

Applicant(s)

FILSER ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-34 and 41-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-34 and 41-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-34 and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wohlwend 6106747 in view of Applicant's Exhibit A: the John Halloran letter dated 6 April 2004 (supplied to the PTO in the response of 5/3/2004).

The invention is disclosed at col 3, lines 24-42 and col. 4, lines 51-54 of Wohlwend. See how the Wohlwend was applied in the previous rejections. The bottom of the first page of Exhibit A indicates it is well known to use the starting density and sintered/final density. By looking to applicant's specification – for example [0036] – the “relative density” is actually some sort of true density – or merely relative to some number. Examiner notes that specific gravity can be considered a “relative density” since it is a comparison to the density of water. Thus a material with a specific gravity of 3.4 would have a density of 3.5 g/cc. And, as a relative density $(3.5 \text{ g/cc}) / (1.0 \text{ g/cc}) = 3.5$. What Examiner is trying to demonstrate that since applicant sets forth a “relative density” as 3.089 g/cc in [0036], the density is not “relative” to another density, because there would be no units. At best it is “relative” to some dimensionless number. And thus one can consider that the densities that John Halloran

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refers to are “relative densities” because they are relative to the dimensionless number “1” or else they are relative to the density of water.

Halloran explains that it is well known to compute the enlargement factor from the two densities. IT would have been obvious to compute the enlargement factor from the densities when using the Wohlwend method, because Wohlwend does not teach how-to determine it. Moreover, since Wohlwend teaches to use the factor and since Halloran teaches it well known, it seems more than likely that one of ordinary skill would immediately realize that Wohlwend's method encompasses determining the factor by any convention method – such as the method discussed by Halloran.

¶

From MPEP 2144.01 Implicit Disclosure:

“[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom.” *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

See also, *In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

¶

As to the particular relationship/equation that Applicant claims, it is deemed that it is the only possible computation that Halloran could have been referring to – assuming isotropic shrinkage.

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For example, assuming a cube, the initial size would be $Y \times Y \times Y = \text{volume}$. It's mass would be M . After firing, the size would be $Z \times Z \times Z = \text{final volume}$. The mass would remain the same. It's initial Density would be $ID = M/Y^3$ and the final density $FD = M/Z^3$

But since M stays the same $M = ID \times Y^3$ and $M = FD \times Z^3$

Then rearranging the terms $ID/FD = Z^3/Y^3$

And since the enlargement factor is just the same thing as linear shrinkage, $Z/Y = Y$, one would necessarily arrive at the same result that applicant obtained.

The same analysis would result in whatever geometry was used.

As to claims 41-43, it would have been obvious to calculate the term to the degree of precision desired. Examiner takes Official notice that most calculators calculate to at least 8 digits. Thus even if one didn't intend to use 4 digits of precision, the routine use of a calculator to determine the factor, would inherently result in the generation of a number with at least 4 decimal points.

Response to Arguments

Applicant's arguments filed 18 May 2006 have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections

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are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Thus applicant's arguments regarding Wohlwend (alone) are not very relevant – the rejection is not based on Wohlwend alone.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., no working stump, no working pack, a link to density, what the final density is) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). It is noted that the arguments fail to point out a specific claim limitation that is not covered by the combination, that is by line number or by a direct quote. Rather, the arguments appear to be directed to the disclosed invention.

It is argued that examiner overlooks that Wohlwend never discloses determination of an enlargement factor. The rejection clearly sets forth that Halloran discloses this feature.

It is further argued that the application states to use an enlargement factor per blank. The relevance of this is not understood – the rejection is based on the *claims* require not what the “application”.

It is also argued that Halloran does not specify how to calculate from initial and final density and enlarge linearly. The relevance of this is not understood. The claims do not require a step of calculating from initial and final density. The claims only require

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that there be a calculation and that it must be "in accordance" with the formula in the claim. As indicated in the rejection, no matter how one calculates it, it must be in accordance. If it is not in accordance, it is not the enlargement factor, rather it is something else.

It is also argued that the references did not state there are a lot of complicated models to calculate enlargement. Examiner agrees. Examiner believes one reason for this is because there are not lots of complicated models. Examiner believes there is no complicated model. Examiner believes there is ONLY ONE model. Halloran refers to "the enlargement factor" – this strongly suggests there is exactly one model. It is noted that applicant has failed to point out any other model (complicated or otherwise). If there are a lot of models, as Applicant suggests, it assumed that Applicant would have supplied evidence of at least one in the prior art.

From MPEP 2112: "The express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103." Thus a rejection under 35 USC 103 can still be proper even though the calculation is not expressly taught.

The arguments regarding density are not understood. The arguments make no indication as to which specific limitations are not covered by the rejection. For example the arguments refer to "full density" – the claims do not require full density. Claim 16 permits any final density.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

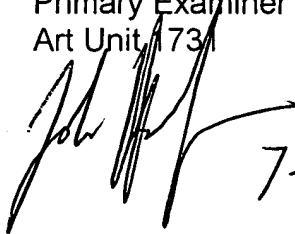
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Hoffmann
Primary Examiner
Art Unit 1731

jmh⁰⁴



7-18-06